

CLAIMS

What is claimed is:

1. A hard disc drive, comprising:
a disc on which information is stored;
a slider including a head to perform reading and writing operations on the disc;
a driving unit to drive the slider;
a base including:
an air damping ramp adjacent to a recording surface of the disc, and
a moving region in which the slider and the driving unit move, a bottom of the moving region being lower than the air damping ramp, and
a channel provided to be recessed at the bottom of the moving region, and to extend along the moving path of the slider.
2. The hard disc drive of claim 1, wherein the channel is a predetermined distance from an edge of the air damping ramp.
3. The hard disc drive of claim 2, wherein sidewalls of the channel are inclined with respect to a bottom of the channel.
4. The hard disc drive of claim 3, wherein the sidewalls of the channel are inclined at 45° or less to suppress an occurrence of vortex during air flow in the hard disc drive.
5. The hard disc drive of claim 2, wherein the edge of the air damping ramp which faces the moving region is inclined.
6. The hard disc drive of claim 2, wherein the channel is provided beneath the slider.
7. The hard disc drive of claim 1, wherein the channel extends to the air damping ramp.

8. The hard disc drive of claim 7, wherein sidewalls of the channel are inclined with respect to a bottom of the channel.

9. The hard disc drive of claim 8, wherein the sidewalls of the channel are inclined at 45° or less to suppress an occurrence of vortex during air flow in the hard disc drive.

10. The hard disc drive of claim 7, wherein the channel is provided beneath the slider.

11. The hard disc drive of claim 1, wherein the driving unit comprises:
an actuator arm to rotate under a power of a voice coil motor installed in the base; and
a suspension, one end of which is combined with the actuator arm and the other end of which is combined with the slider to move within the moving region.

12. A hard disc drive having a disc, a slider, and a driving unit, comprising:
a base including:
an air damping ramp adjacent to a recording surface of the disc;
a moving region in which the slider and the driving unit move, a bottom of the moving region being positioned at a level different from the air damping ramp; and
a channel formed to be recessed at the bottom of the moving region and to extend along a moving path of the slider, reducing a vortex occurring around the slider and reducing vibration in the hard disc drive.

13. The hard disc drive of claim 12, wherein the channel is a predetermined distance from an edge of the air damping ramp.

14. The hard disc drive of claim 13, wherein sidewalls of the channel are inclined with respect to a bottom of the channel.

15. The hard disc drive of claim 14, wherein the sidewalls of the channel are inclined at 45° or less to suppress an occurrence of vortex during air flow in the hard disc drive.

16. The hard disc drive of claim 13, wherein the edge of the air damping ramp which faces the moving region is inclined.

17. The hard disc drive of claim 13, wherein the channel is provided beneath the slider.
18. The hard disc drive of claim 12, wherein the channel extends to the air damping ramp.
19. The hard disc drive of claim 18, wherein sidewalls of the channel are inclined with respect to a bottom of the channel.
20. The hard disc drive of claim 19, wherein the sidewalls of the channel are inclined at 45° or less to suppress an occurrence of vortex during air flow in the hard disc drive.
21. The hard disc drive of claim 18, wherein the channel is provided beneath the slider.
22. The hard disc drive of claim 14, wherein a central line which passes through a head of the slider intersects the bottom of the channel at a predetermined distance from the sidewalls of the channel.
23. The hard disc drive of claim 14, wherein a head of the slider is positioned at a center of the bottom of the channel.
24. The hard disc drive of claim 14, wherein at least one of the sidewalls of the channel has a ramp positioned between the edge of the air damping ramp and the bottom of the channel.
25. The hard disc drive of claim 14, wherein a central line which passes through a head of the slider is an equal distance from the sidewalls of the channel.